

CHANGES IN STUDENT TEACHERS' INTENTION TO TEACH DURING STUDENT TEACHING

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Abstract

Over the course of the student teaching experience, a student teacher's intention to teach can increase, decrease, or remain the same. The purpose of this study was to explore differences in student teachers that were representative of each category. Teaching intention of 103 student teachers at four universities in 2005-2006 exhibited little change from the beginning of student teaching to the middle of the experience. There was a 7% increase in those who indicated they did not intend to teach from the beginning of student teaching to the end of the experience. The researchers recommend that decision to teach be monitored early in the preservice teaching career to determine when this decision is typically made as well as including other efficacy variables for determinants of career choice.

Introduction

The profession has experienced a *de facto* teacher shortage for some time (Kantrovich, 2007). This situation will intensify over the coming decade (2008-2018) due to a national emphasis to increase the number of agricultural education programs (the 10 × 15 initiative); it is further exacerbated by teacher retirements as “baby boomers” reach retirement age. High quality programs are dependent on an adequate supply of qualified teachers. So, where will the supply of new teachers come from? The traditional avenue has been from preservice teacher education programs for agricultural education teachers. However, during the 2005-2006 academic year, only about 70% of qualified graduates elected to enter the profession (Kantrovich). Why did the other

30% choose not to teach? Are there differences between student teachers who elect to teach and those who do not? The group of qualified teachers (237 in 2005-2006) who initially chose not to teach is a potential source to meet demands for new teachers.

Theoretical Framework

The theoretical framework adopted in this study was expectancy-value theory (EVT) (Atkinson, 1957), and it was used to explain the motivation of selecting teaching as a career choice. In general, expectancy-value theorists (Eccles et al., 1983; Feather, 1982, 1992; Watt & Richardson, 2007; Wigfield & Eccles, 2000) have posited that individuals' motivation for decision making can be influenced by their belief about how

well they will do on an activity, and the extent to which they value the activity. Expectancy-value theory is often applied to general achievement motivation (Eklöf, 2006) and has been used to undergird a diverse group of research studies involving mathematics achievement (Eccles et al.), social loafing (Shepperd & Taylor, 1999), student test-taking motivation (Eklöf), teachers' motivational strategies (Green, 2002), teaching choice (Watt & Richardson), and unemployment (Vansteenkiste, Lens, De Witte, & Feather, 2005).

As shown in Figure 1, the conceptual model of decision to teach is represented by three major components (i.e., expectancy, value, and choice of teaching career), and the variables of interest in the study. The expectancy component of EVT is operationalized as teacher efficacy (Wigfield & Eccles, 2000). Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) defined

teacher efficacy as "teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). Applying EVT to the current study, if a student teacher has a strong expectation that he or she can perform the responsibilities of a teacher, it is reasonable to conclude that this attitude will be a strong motivator of the individual's decision to pursue a teaching career. The value component of EVT is conceptualized as how much importance an individual attaches to a career, performance, or task (Wigfield & Eccles). The current study proposed that student teacher perceptions of the cooperating teacher would be an indication of the value they had in a teaching career. The final component in the model is choice of teaching career, and is represented by the variable called hypothetical decision to teach.

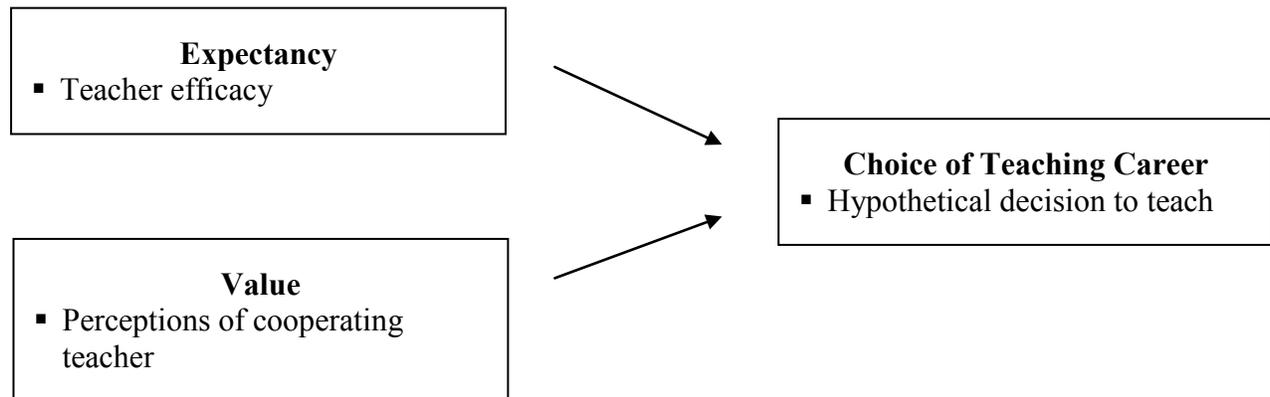


Figure 1. Conceptual model of decision to teach.

Literature Review

The literature review was focused on the variables of interest in the study and included teacher efficacy, student-teacher-cooperating teacher relationship, and decision to teach.

Teacher Efficacy

The importance of teacher efficacy has been reported by a number of scholars.

Teachers with a high level of teacher efficacy are motivated to persist when faced with challenges, and they are willing to exert effort to overcome difficulties (Tschannen-Moran et al., 1998). Previous research determined that teacher efficacy can contribute to career longevity (Burley, Hall, Villeme, & Brockmeier, 1991), classroom management skills (Woolfolk, Rosoff, & Hoy, 1990), professional commitment (Coladarci, 1992; Evans & Tribble, 1986),

and student achievement (Muijs & Reynolds, 2002). Teachers who leave the teaching profession were found to have a lower level of teacher efficacy (Burley et al.).

From the research conducted in agricultural education, it appears that career commitment and the student teaching experience have an influence on teacher efficacy. Knobloch and Whittington (2003) concluded that teachers with a greater commitment to their career maintained a higher level of teacher efficacy. In another study (Whittington, McConnell, & Knobloch, 2006), the perceived excellence of the student teaching experience and the number of class preparations the teacher was responsible for were determined to be predictors of teacher efficacy among novice teachers. Similarly, Knobloch and Whittington (2002) reported that the perceived student teaching experience, perceived teacher preparation quality, and collective efficacy were predictors of teacher efficacy among student teachers and novice teachers.

Previous studies examined changes in teacher efficacy during student teaching by comparing perceived levels at the beginning of student teaching with perceived levels at the conclusion of student teaching. The literature presented conflicting findings regarding this inquiry. Fortman and Pontius (2000) found an increase in teacher efficacy during student teaching, while other researchers reported no change in teacher efficacy (Knobloch, 2006) and a decrease in teacher efficacy (Swan, 2005) during student teaching.

Roberts, Harlin, and Ricketts (2006) and Harlin, Roberts, Briers, Mowen, and Edgar (2007) extended teacher efficacy research in agricultural education by use of longitudinal studies involving student teachers. The researchers investigated the change in level of teacher efficacy throughout the student teaching experience and both studies concluded that the level of teacher efficacy changed during student teaching. A *high, low, rebound* phenomenon pertaining to level of teacher efficacy was discovered by Roberts et al. (2006) and supported by Harlin et al. (2007). Student teachers' average level of teacher efficacy started

high, dropped to a lower level at the midpoint, and then rebounded to a high level at the conclusion of student teaching. Additionally, the researchers examined the sub-constructs of teacher efficacy (i.e., student engagement, instructional strategies, and classroom management), and they concluded that student engagement efficacy scores were the lowest of the three constructs at all four measurement points during the semester.

Student Teacher-Cooperating Teacher Relationship

Student teachers in agricultural education rated the student teacher-cooperating teacher relationship as the most important element of student teaching, both before and after the experience (Harlin, Edwards, & Briers, 2002; Young & Edwards, 2006). Building on this line of inquiry, Roberts (2006) developed a model of cooperating teacher effectiveness that consisted of four dimensions: teaching/instruction, professionalism, student teacher/cooperating teacher relationship, and personal characteristics. Roberts' model was used as the basis for further research (Kasperbauer & Roberts, 2007a) that focused on change in the student teacher-cooperating teacher relationship throughout the student teaching semester and the predictive nature of the relationship on student teachers' decision to enter teaching (Kasperbauer & Roberts, 2007b). As a result, Kasperbauer and Roberts (2007a) concluded that student teacher perceptions of the *importance* of the relationship between student teacher and cooperating teacher did not change throughout the experience. An additional conclusion was that student teachers perceived the *level* to which cooperating teachers exhibited the characteristics needed for an effective relationship decreased as the student teaching experience progressed. Kasperbauer and Roberts (2007b) found that the student teacher-cooperating teacher relationship was perceived to be important to students; however, for this group of student teachers, the relationship was not predictive of students' decision to teach.

Decision to Teach

The literature suggests that gender, participation in high school agricultural education courses, and agricultural work experience have an influence on decision to teach (Edwards & Briers, 2001; Kasperbauer & Roberts, 2007b). For example, previous research has concluded that semesters of high school agricultural education courses completed by the student teacher was a significant predictor of decision to teach (Kasperbauer & Roberts; 2007b). The authors implied that efforts to recruit potential agricultural education teachers should focus on high school students who enroll in a high number of agricultural education courses. Additionally, agricultural work experience had a moderate and significant correlation with decision to teach.

Edwards and Briers (2001) examined characteristics of entry-phase agriculture teachers in an effort to determine which characteristics explained teachers' decision to remain in the teaching profession. The researchers contended that characteristics in the form of experience (e.g., agricultural work experience, high school FFA involvement, highest academic degree) can be viewed as a perceived level of competence. Regression analysis identified gender (i.e., male) and agricultural work experience as predictors of additional years a teacher expected to teach.

Given the importance of the student teaching experience (Harlin et al., 2002; Young & Edwards, 2006) and a need to address teacher recruitment and retention issues (Kantrovich, 2007; National FFA Organization, 2005), it is imperative to conduct research in an effort to better understand the student teaching phenomenon and decision to teach. Previous studies in agricultural education have primarily studied the variables of teacher efficacy, student teacher-cooperating teacher relationship, and decision to teach apart from each other. Thus, this study sought to extend student teacher research by using a comprehensive approach to examine students' intention to teach and how this decision changed during the *entire* student teaching experience. In conjunction, teacher efficacy and the student teacher-cooperating

teacher relationship were studied for possible impact on the decision to teach.

Purpose and Objectives

Over the course of the student teaching experience, a student teacher's intention to teach can increase, decrease, or remain the same. The purpose of this study was to explore differences in student teachers that fall in each category. Three objectives guided this inquiry:

1. Describe student teachers' intention to teach before, during, and after the student teaching experience.
2. Describe how student teachers' intention to teach changed during the student teaching experience.
3. Compare student teachers who intend to teach with those who do not.

Methods and Procedures

This study employed a causal comparative design by measuring variables relevant to the theoretical framework and variables identified through the literature review as they naturally occurred without manipulation from the researchers (Gall, Gall, & Borg, 2003). This design allowed for examining relationships between variables and examining differences between groups. However, it does not allow for determination of cause and effect relationships.

The population for this study was student teachers at Texas A&M University, Oklahoma State University, the University of Minnesota, and the University of Georgia. The accessible sample was preservice teachers who student taught during the 2005-2006 school year. The sample included 70 student teachers from Texas A&M University (27 in fall, 43 in spring), 24 from Oklahoma State University (seven in fall, 17 in spring), 12 from the University of Minnesota (all in spring), and 18 from the University of Georgia (all in spring). Thus, the accessible sample was 124 student teachers. Complete data were collected from 103 student teachers.

Variables of interest were post-graduation intentions, hypothetical decision to teach, teacher efficacy (with three sub-constructs), perceptions of cooperating teachers (with eight sub-constructs), and demographic variables. Data were collected in person by the researchers using paper and pencil instruments at three points during student teaching: (a) immediately prior to the experience, (b) in the middle of the experience, and (c) at the end of the experience.

Intention to teach was assessed using a researcher-developed scale. Recognizing that a student's actual plans may differ than their "in a perfect world" preference, they were given a hypothetical option of teaching by asking the question "if you were offered a suitable agricultural education teaching position in a community of your choice, would you take it?" This question was answered using a 7-point rating scale that ranged from "definitely yes" to "definitely no." These two items were modified from previous work conducted by Kasperbauer and Roberts (2007b) and Roberts, Harlin, and Briers (2009).

Teacher efficacy was determined using the long version of the teachers' sense of efficacy instrument developed by Tschannen-Moran and Woolfolk Hoy (2001). The instrument uses 24 items answered on a 9-point scale ranging from 1 = *nothing* to 9 = *a great deal*. Eight items each are summed to determine the sub-constructs of efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. All 24 items were summed to determine overall teacher efficacy. Tschannen-Moran and Woolfolk Hoy reported that content validity for the instrument was established with an expert panel and a review of the literature. Construct validity was established through factor analysis. Reliability was established by examining internal consistency of each sub-construct and overall efficacy. The authors reported alphas of: engagement = .87, instructional strategies = .91, classroom management = .90, and overall efficacy = .94. This instrument has been used by previous researchers in agricultural

education (Knobloch, 2006; Roberts et al., 2006; Whittington et al., 2006).

Perceptions of the cooperating teacher were measured by a researcher-developed instrument that was based on four dimensions identified by Roberts (2006): (a) instructional ability, (b) professionalism, (c) relationship, and (d) personal characteristics. The instructional ability dimension consisted of nine items, professionalism consisted of 10 items, relationship had 14 items, and personal characteristics had 10 items. For the instrument used in the current study, student teachers were asked to use a 5-point rating scale to indicate the importance of each item (1 = *low* to 5 = *high*) and the level that their cooperating teacher exhibited (1 = *low* to 5 = *high*). Content and construct validity for the instrument was established by Roberts. Reliability as a measure of internal consistency of the instrument was determined by a pilot test of student teachers not involved in the study. The alphas for each sub-construct were: instructional ability = .85, professionalism = .81, relationship = .85, and personal characteristics = .68. Overall reliability for perceptions of the cooperating teacher was .85 (Kasperbauer & Roberts, 2007a). The researchers recognized that measuring personal characteristics of people is a complex process and the focus of a substantial amount of psychological research. Accordingly, the 10 items from Roberts study likely only scratch the surface and thus provide somewhat inconsistent measurement. Regardless, given the grounded theory approach used by Roberts, the items were retained in the instrument.

Based on the literature consulted, this research also included several demographic and descriptive variables. It was determined that respondents would be able to accurately provide the descriptive information about themselves and thus reliability would not be an issue (Dillman, 2000). Participants were asked to provide age, gender, and race/ethnicity. For race/ethnicity, the following options were provided: American Indian or Alaskan Native, Asian, Black or African-American, Hispanic/Latino, Native Hawaiian or other Pacific Islander, and White. Participants were also asked to provide their current major and indicate their academic status as: undergraduate,

postgraduate seeking only certification, postgraduate seeking certification and second undergraduate degree, graduate student seeking certification but not a graduate degree, or graduate student seeking certification and graduate degree. To provide an indication of experience, participants were asked to provide the number of semesters of high school agricultural education classes (none, 1-2, 3-4, 5-6, or 7-8) and their agricultural work experience. Options for work experience came from Edwards and Briers (2001) and included: (a) none, (b) mostly avocational, (c) part-time employment, (d) full-time temporary, or (e) full-time.

Findings

Of the 124 student teachers participating fully in this study, a majority were female (64.2%) and White (92.7%). Four students identified themselves as American Indian or Alaskan Native, two selected Hispanic, and one chose Asian. The average student was 22.7 years old (*SD* = 2.9); the range was from 20 to 43 years.

A majority of the student teachers in this study had taken 7-8 semesters of agricultural education courses while in high school (50.8%). Those reporting fewer semesters

were: 15.8% reported 5-6 semesters, 16.7% selected 3-4 semesters, 3.3% chose 1-2 semesters, and 12.9% reported taking no agricultural education courses while in high school. A majority of the student teachers (50.8%) had experienced full-time employment in an agricultural industry.

Objective 1: Describe Student Teachers' Intention to Teach Before, During, and After the Student Teaching Experience

The question used to determine hypothetical decision to teach had seven options (Definitely Yes, Yes, Probably Yes, Unsure, Probably No, No, Definitely No) grouped into three categories: those who will seek a position (Definitely Yes, Yes, Probably Yes) were re-coded as "Yes," those who were unsure whether they would seek a position (Unsure) were re-coded "Unsure," and those who will not seek a position (Probably No, No, Definitely No) were re-coded "No." These decisions were measured at three intervals during the student teaching experience. A majority of students intended to seek a position at each of these measurement intervals. The data for each measurement interval are summarized in Table 1. Participants with missing data were included in descriptive analysis but excluded from inferential analysis.

Table 1
Intention to Teach: Beginning, Middle, and End of Student Teaching Experience (N = 124)

Decision	First measure	Mid-term measure	Last measure
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)
Yes	87 (70.2)	89 (71.8)	82 (66.1)
Unsure	20 (16.1)	20 (16.1)	15 (12.1)
No	7 (5.6)	10 (8.1)	15 (12.1)
Missing	10 (8.1)	5 (4.0)	12 (9.7)

Objective 2: Describe How Student Teachers' Intention to Teach Changed During the Student Teaching Experience

As we operationally define the decision to teach in this study, it is time dependent, meaning the last measurement taken is

nearer to the time the student must actually commit to teach. We have two observations about that. First, the last measurement is probably the most accurate, and second, the number of students selecting "Unsure" should decrease because as deadlines pass,

time has essentially made the decision for some of the "Unsure" students.

These changes in decision to teach were of interest to the researchers. The decisions of individual students in the first and last of these measurement intervals were further examined. The students "missing" from the last measure provided a subsample for this test of 112. Of these 112, nine were missing from the first measure. The decision pairs of the remaining 103 students were examined. There are nine possible decision pairs (Yes/Yes, Yes/Unsure, Yes/No, etc). Students in this study fell into seven of those. No student went from No to Yes, or from Yes to Unsure. This more detailed examination revealed that the decision to teach may be less stable than it originally

appeared. While it appeared that 82 of 87 students chose Yes/Yes (Table 1), in fact only 68 students actually chose this decision pair. These data are summarized in Table 2.

Because seeking a teaching position requires an active commitment, those who are "unsure" are effectively not going to seek a position. Thus, the authors made the decision to categorize Yes/No, Yes/Unsure, Unsure/Unsure, Unsure/No, No/Unsure, and No/No as a final decision to not teach. As illustrated in Table 2, 75 of the decision pairs of the 112 student teachers resulted in a final decision (Yes/Yes or Unsure/Yes) to seek a teaching position. In contrast, 28 of their peers reached a final decision to not teach.

Table 2
Change in Intention to Teach: Beginning to End of Student Teaching Experience (n = 112)

Intent to teach		f(%)
Before student teaching	After student teaching	
Yes	Yes	68 (60.7)
Yes	No	10 (8.9)
Unsure	Yes	7 (6.3)
Unsure	Unsure	4 (3.6)
Unsure	No	7 (6.3)
No	Unsure	2 (1.8)
No	No	5 (4.5)
Missing		9 (8.0)

Objective 3: Compare Student Teachers Who Intend to Teach with Those Who Do Not

Once the student teachers were categorized based on their intention to teach (Yes or No), the two groups were compared on variables of interest. As depicted in Table 3, *t*-test analysis revealed that student teachers who intended to teach (*n* = 75) did

not differ statistically from student teachers who did not intend to teach (*n* = 28) in age (23.05 to 22.08) or in teacher efficacy (7.33 to 7.26). The two groups also did not differ statistically in their perceptions of their cooperating teacher's instructional ability (4.37 to 4.01), professionalism (4.45 to 4.31), relationship (4.13 to 3.87), or personal characteristics (4.35 to 4.15).

Examining nominal and categorical variables (Table 4), Chi-square analysis revealed no relationship between student teachers' intent to teach and gender ($X^2 = .15$, $p = .70$). There was also no relationship between intent to teach

and number of semesters of high school agricultural education classes completed ($X^2 = 4.09$, $p = .39$) or between intent to teach and agricultural work experience ($X^2 = .92$, $p = .92$).

Table 3

Comparison of Student Teachers Who Intend to Teach to Those Who Do Not Intend to Teach

	Intend to teach ($n = 75$)		Intend not to teach ($n = 28$)		t	p	Effect Size
	M	SD	M	SD			
Age	23.05	3.42	22.08	.98	1.43	.16	.14
Teacher efficacy	7.33	.93	7.26	1.08	.35	.73	.03
Coop. teacher instructional ability	4.37	.98	4.01	.80	1.72	.09	.17
Coop. teacher professionalism	4.45	.66	4.31	.85	.86	.39	.09
Coop. teacher relationship	4.13	.77	3.87	1.02	1.41	.16	.14
Coop. teacher pers. characteristics	4.35	.70	4.15	1.02	1.10	.28	.11

Note. Teacher Efficacy scale was 1 = Not at all to 9 = A great deal. Coop. Teacher variables scale was 1 = Low to 5 = High.

Conclusions

Teaching intention of the surveyed student teachers exhibited little change from the beginning of student teaching to the middle of the experience. However, there was a 7% increase in those who indicated they did not intend to teach from the beginning of student teaching to the end of the experience. There was also a 4% decrease (from beginning to end) in the number of participants who decided they indeed would take the ideal teaching job if the opportunity presented itself.

Approximately 66% of those responding began and ended student teaching with an intention to teach, and a few (7%) additional students who began student teaching as unsure or as a definitive "no" ended student teaching with a decision to teach. This

leaves just under 30% making the decision not to teach. Recall that 30% was the national average of pre-service agricultural education teachers who chose not to teach (Kantrovich, 2007).

Utilizing EVT (Atkinson, 1957) as it was operationalized in this study, it was determined that expectancy (teacher efficacy) and value (cooperating teacher perceptions) were not associated with hypothetical decision to teach. Further, this study found no significant difference between participants who had decided to teach and those who did not on the variables of age, gender, number of high school agricultural education courses, and agricultural work experience. This finding is in contrast to previous research (Edwards & Briers, 2001; Kasperbauer & Roberts, 2007b).

Table 4
Comparison of Student Teachers Who Intend to Teach to Those Who Do Not Intend to Teach

	Intend to teach	Intend not to teach	X^2	<i>p</i>
	(<i>n</i> = 75)	(<i>n</i> = 28)		
	<i>f</i> (%)	<i>f</i> (%)		
Gender				
Male	49 (67.1%)	17 (63.0%)	.15	.70
Female	24 (32.9%)	10 (37.0%)		
HS ag education classes				
None	14 (18.9%)	1 (3.7%)	4.09	.39
1 - 2 semesters	2 (2.7%)	1 (3.7%)		
3 - 4 semesters	9 (12.2%)	5 (17.9%)		
5 - 6 semesters	10 (13.5%)	5 (17.9%)		
7 - 8 semesters	39 (52.7%)	15 (55.6%)		
Agricultural work experience				
None	2 (2.7%)	1 (3.8%)	.92	.92
Avocational	19 (26.0%)	8 (30.8%)		
Part-time	13 (17.8%)	5 (19.2%)		
Full-time temporary (e.g., summers)	24 (32.9%)	6 (23.1%)		
Full-time > 6 months	15 (20.5%)	6 (23.1%)		

Recommendations and Implications

The majority of student teachers did not change their mind concerning teaching intention during the time expanse represented in this study. According to Super's (1976) life span theory of career development, people are in the exploration stage of career identification from ages 14 to 24. The average student teaching completer in our study was less than 23 years old. So, decision to teach could have occurred in middle school or after graduation from an undergraduate agricultural education degree program. As with recruitment, perhaps decision to teach should be identified as early as possible and as with retention, perhaps graduates (and their decisions to teach) should be monitored following completion of the degree program.

For a couple of reasons, EVT, as it relates to decision to teach, was perhaps oversimplified for this study. First, teacher efficacy was conceptualized as expectancy, but perhaps student teachers in agricultural education bring many more expectancies to

the table than general pre-service teachers. Agricultural education is a much different model of teaching that involves countless hours of dedication to experiential learning activities (SAE) and community and leadership development activities (FFA). These additional expectancies were not surveyed in this study and therefore ought to be investigated as predictors of decision to teach.

Second, teacher efficacy may not have been the only efficacy variable at play for expectancy and perceptions of cooperating teacher may not have been the only variable at play for value. According to Mitchell and Krumboltz (1996) and their social learning theory of career decision making determinants of career choice (and development) include genetic endowment and special abilities, environmental conditions and events, instrumental and associative learning experiences, and knowledge of task approach skills. Expectancies and values in each of these areas were not surmised, and thus future research seeking to address decision to teach

should consider expectancies, values, and additional multiple dimensions of genetic endowment and special abilities (not just gender), environmental conditions and events (not just agricultural education experiences), instrumental and associative learning experiences (not just student teaching), and knowledge of task approach skills (not just generalized teaching methods, but agricultural education teaching methods). Naturally, intention to teach as defined in this study is a relatively complex phenomenon. Perhaps looking at this issue through a qualitative lens could provide additional opportunities for understanding the decision making process.

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